



# Memorandum

**TO:** TRANSPORTATION AND  
ENVIRONMENT COMMITTEE

**FROM:** Kerrie Romanow

**SUBJECT:** ZERO WASTE PLAN UPDATE

**DATE:** October 16, 2013

Approved

Date

10/24/13

**COUNCIL DISTRICT:** City-Wide

## **RECOMMENDATION**

Accept this update on City efforts to meet zero waste goals and provide input on the strategies and initiatives described in the report.

## **OUTCOME**

Transportation and Environment Committee members will be updated on developments in the City's efforts to achieve zero waste and on issues and opportunities in the coming 12 months that impact integrated waste management.

## **BACKGROUND**

On October 30, 2007, Council adopted a resolution establishing a goal of 75 percent waste diversion by 2013 and a goal of zero waste by 2022. On December 16, 2008, Council approved the Zero Waste Strategic Plan and Zero Waste Workplan. Reporting on the progress of these plans has subsequently been incorporated into the Green Vision Annual Report. The Environmental Services Department (ESD) has developed and implemented a variety of innovative diversion programs to meet the City's zero waste goals. Presently, San José has achieved an overall waste diversion rate of 71 percent. With the recent redesign in the commercial solid waste program, staff anticipates meeting its 2013 75 percent goal by the end of the calendar year.

These efforts include: the first-of-its-kind wet/dry commercial collection program; the nation's best performing multi-family recycling program; the reduction of hard-to-recycle plastics through the implementation of the Single-Use Carryout Bag Ordinance; the recently adopted Foam Food Container Ordinance; and the new anaerobic digestion system for commercial organics opening in November 2013. These initiatives move the City closer to its environmental

goals while providing models for the rest of the country that enhance San José's reputation as an environmental leader. In fact this year, municipalities in North America and beyond, including Houston, New York, Phoenix, Los Angeles, Oakland, Chicago, Charlotte, Orlando, and Pune, India, are using San José programs as case studies and reaching out to staff to learn from the City's experience. San José's efforts were recognized recently with a number of honors, including:

- The new commercial waste program received the Solid Waste Association of North America (SWANA) 2013 Integrated Solid Waste Management Systems Gold Excellence Award. SWANA is the leading professional association in the solid waste field, and this award is their highest honor for a program of this kind.
- The *Transforming Trash in Urban America* study surveyed 37 of the country's largest cities and named San José a "model and hub of innovation" for "producing one of the highest recycling rates in the country."
- *Partnership for Working Families*, a national nonprofit social-justice group, identified San José as one of three cities in the nation with sustainable recycling programs that help achieve zero waste while supporting family-sustainable wages and economic development.
- The Recycle Plus program earned the *Waste & Recycling News* 2012 Green City Award for being the most effective and successful residential recycling program for a large city in the United States.

Staff continues to refine these programs and pursue new diversion initiatives that will help the City achieve its zero waste goals. This report provides a summary of recent activities and planned efforts through the end of the 2014 calendar year.

## **ANALYSIS**

### **Residential Solid Waste Services**

Collectively, the residential haulers have met or exceeded their contractually-required targets by reaching 60 percent diversion in 2012-2013. In June 2013, the Recycle Plus program received \$2,600,000 from Garden City Sanitation, the first annual negotiated payment for amortization savings related to their new contract awarded in 2010. This savings was used in 2013-2014 to pay off the commercial paper financing for the current billing system, which reduced financing costs and mitigated the need for customer rate increases this fiscal year.

In 2014, staff will continue to evaluate options and pilots to increase diversion for single-family homes, which will be necessary to meet the City's Zero Waste goals. One key strategy under consideration is back-end processing of garbage generated by homes to remove recyclables and to compost or anaerobically digest the organic portion of the waste. This program model is already in place for all multi-family garbage citywide, and back-end sorting of residential waste, including food, would increase residential diversion to approximately 80 percent. As part of this

analysis, staff will assess rate impacts, alternative rate structures, and opportunities to obtain more favorable pricing with the processors to reduce the costs associated with these enhancements. Additional residential services highlights are detailed below.

Clean Recyclables Cart Campaign: In early 2013, China, where the bulk of the City's recyclables are reprocessed, became more selective of materials it would accept with its "Green Fence Policy." This has made it more difficult for recycling brokers to sell bales of recyclables that contain contaminants and consequently, more difficult for the residential haulers to market San José's curbside recyclables. While market pressure had relaxed somewhat by summer 2013, addressing contamination of curbside recyclables (to increase their quality for end-users and to prevent health and safety hazards for the sorters who handle the material) is still needed. To prevent residents from placing harmful and non-recyclable materials in the residential recycling carts, ESD will focus required hauler outreach to ensure residents are educated about how to correctly use the program. Staff will partner with the haulers to implement a multilingual education and enforcement effort that will test various behavior change strategies. This trilingual citywide outreach campaign will raise residential awareness of recycling best practices and inform residents of increased enforcement efforts, which could result in citation fees or mandatory service level increases for repeat offenders. Households with repeated violations for cart contamination will receive tailored outreach to help them set out properly, as well as additional review by solid waste inspectors. Specific elements of this effort will include:

- Citywide outreach materials highlighting correct recycling practices and delivering the message that fines and cart size increases are possible for repeated non-compliance;
- Contract required hauler outreach to residents in English, Spanish, and Vietnamese explaining proper recycling practices;
- Hauler field audits identifying non-compliant materials in carts;
- Cart audits by solid waste inspectors at households with repeated cart contamination; and
- Possible use of fines for non-compliance, or garbage service upsize for repeated violations, as outlined in the San José Municipal Code.

Initial outreach to help residents recycle correctly is expected to occur between November 2013 and March 2014. Following this enhanced outreach and notification about increased inspection efforts, staff could begin enforcement activities. The enforcement pilot would last for approximately one year. Staff will analyze outreach data to determine the impact of these efforts and the best methods to implement for long-term results. Enforcement efforts can also help to reduce hazardous materials in recycling and garbage carts by identifying and educating customers who can benefit from the Santa Clara County (County) Household Hazardous Waste (HHW) program.

Household Hazardous Waste: Construction of the Environmental Innovation Center (EIC) restarted in September with an anticipated completion date of late March 2014. The EIC will provide a permanent home for the County's HHW program in partnership with San José for the collection of batteries, pesticides, household cleaners, and other commodities containing harmful substances such as lead and mercury. During 2012-2013, over 8,900 San José households

correctly disposed of HHW through this program. The new facility's central location and additional drop-off days (initially 12 per month are planned) could result in adding up to 6,000 more appointments in the twelve months after the EIC opens. Staff will continue to work with the County on enhancing outreach and education efforts. Diverting HHW material supports the City's Green Vision goal to divert waste from the landfill and protects regional water systems.

Neighborhood Clean-Up Program: ESD continues to partner with the Department of Planning, Building, and Code Enforcement (PBCE) to conduct Saturday Neighborhood Clean-Ups (NCUs) 25 times per year, serving every San José neighborhood on a three-year cycle. These events reduce blight in the neighborhoods and facilitate recycling for residents. Over 2,000 tons of discard items were collected in 2012-2013. Seventy five percent of this material was either recycled or diverted from landfill. Recent enhancements to the NCU program include:

- Participation of non-profits recyclers in NCUs to increase reuse of material
- The collection of pharmaceuticals and universal waste such as batteries and fluorescent tubes and lamps provide residents with a convenient disposal option
- Launch of the NCU event schedule as a feature in the online Collection Day Look-Up tool on the City's website which allows residents to easily find out when their next Clean-Up will be scheduled

Beginning in July 2013, ESD partnered with PBCE and the San José Conservation Corps to conduct pilots for collection of bulky expanded polystyrene (EPS) packaging at two NCU events. The pilots were designed to test the feasibility of collecting clean EPS packaging from residents for recycling in the NCU program. Staff developed a second series of NCU pilots for late 2013 to identify potential cost reductions for EPS collection and improve participation. In addition, staff will continue to test alternatives to improve EPS collection and will identify additional convenient opportunities for residents to recycle EPS packaging.

### **Pilot - Litter and Blight in Higher Crime Neighborhoods**

This year, ESD staff is collaborating on a pilot effort with Police and PBCE departments to develop a replicable model that effectively addresses litter and blight on private property. The pilot will focus on four largely residential areas that have experienced increased criminal activity and Municipal Code violations. The pilot team will test coordination practices with solid waste haulers and neighborhood groups to identify and address violations. Blight issues in this pilot that impact solid waste services include illegal dumping, overflowing garbage containers, blocked solid waste enclosures, and any other related issues observed within the pilot areas.

During inspections and follow-ups, ESD will use multiple tools to educate the public to increase compliance. This will include informing residents, neighborhood businesses, and property managers of alternate methods of solid waste disposal, such as bulky item pick-up, and donation of useable goods. Enforcement measures may include warning notices, administrative citations, and increasing frequency of collection for businesses or minimum service levels for residents.

## **Commercial Solid Waste Services**

On July 1, 2012, San José took a major step toward accomplishing several of its Green Vision goals when it launched one of the most comprehensive and innovative commercial waste management systems in the United States. Through integrated programming, the system encouraged over \$100 million in private infrastructure development, including construction of the world's largest Material Recovery Facility (MRF), owned and operated by Republic Services, and the first commercial-scale dry anaerobic digestion facility in the United States, owned and operated by the Zero Waste Energy Development Company (ZWED). Under the new system, no material goes directly to landfill, and in less than a year, the new system has tripled the diversion rate of San José's commercial sector. In addition, the new commercial waste management system keeps San José businesses compliant with new state-mandated recycling requirements, stabilizes the City's General Fund, and furthers San José's sustainability goals.

One of the key features of the new commercial program is the Integrated Waste Management compliance program that was initiated in July 2012 to ensure compliance with franchise, contract, and Municipal Code provisions that protect public health and safety with regard to solid waste management. To facilitate effective inspections for San José businesses, multi-family complexes, and residential areas, the following tools have been designed to streamline inspection, tailor data capture, and facilitate communications with customers: interactive online GIS map viewers; tailored Access applications, online reporting tools; and tablets for field capture of case data including case details, photos, and letters.

Goals for commercial enforcement in 2014 are:

- All solid waste haulers in the City are legally franchised to do business in San José
- San José businesses use only the exclusive collection contractor, Republic Services
- Businesses reporting self-hauling do not use an illegal hauler
- Enclosures and collection containers create no health and safety hazards
- Businesses have the correct level of service to protect public health and reduce blight

## **Events and Facilities**

San José Convention Center: In June 2013, staff began working with Team San José (TSJ) to determine current diversion rates and identify opportunities to increase waste diversion at TSJ-managed venues such as the San José Convention Center. Currently, TSJ is recycling paper, cardboard, glass, plastic, e-waste and cans, as well as diverting food waste from landfill. As an additional benefit to our community, surplus food is being distributed to local food banks. With the opening of the convention center addition, TSJ plans to deploy over 300 new integrated garbage/recycling receptacles that will be instrumental in increasing diversion. Staff is also discussing opportunities to increase public education around waste reduction and other environmental messages. This heightened "greening" of the convention center will help draw more meetings, conferences, and events to San José as more professionals set green meeting

criteria for the venues they choose for their events. The positive impact of this commitment to sustainability may result in increased economic and environmental benefits to the city and the region.

Zero Waste Events: The Zero Waste Events program provides assistance to over 90 events to manage materials and help divert waste. This recycling support has diverted 81 percent of event waste from landfills. Since the Zero Waste Events program began in 2009, the number of events assisted by City staff has increased by 78 percent with no increase in staffing. ESD is determining how to streamline services, such as potentially having the San José Conservation Corps provide more extensive event materials management. Event organizers are continuing to increase their materials management efforts through support from ESD's Zero Waste Events Team. For instance, Christmas in the Park, went beyond minimum code requirements to improve their signage and help event attendees use "eco-station" waste containers correctly. This voluntary measure helped solve a waste problem caused when non-recyclable and non-compostable food service ware is brought into the event from non-event vendors. Another popular family event, Spring in Guadalupe Gardens, implemented a portable drinking water refill station that facilitated reusable water bottle use instead of disposable options, greatly reducing plastic waste.

Public Litter Cans: ESD is in the process of replacing many of the 820 public litter cans (PLCs) with improved models in multiple business districts throughout the City. These PLCs are much less vulnerable to graffiti and scavenging, thus reducing needed maintenance. Additionally, these PLCs have "QR" codes for the public to report maintenance problems. Despite this inventory of PLCs, litter continues to be an issue in certain parts of the City. In the new year, staff from ESD's Watershed Protection Division will evaluate piloting additional litter cans, public education, and enforcement in various blighted areas to reduce storm water impacts.

San José Earthquakes: The San José Earthquakes professional soccer team has worked with the County for several years to publicize the HHW Program to key demographic sectors who frequent Quakes games, successfully increasing participation in the HHW program. San José is in discussions with the Earthquakes and the County to leverage this model to further promote HHW efforts, litter reduction, and improve participation in recycling. Specific outreach strategies will be identified closer to the new stadium's completion in late 2014. Additionally, staff is looking for opportunities at the new stadium to use green building features and operations to promote environmental actions by the public to reach zero waste goals.

### **Strategic Partnerships**

In addition to contracted services providers, staff has developed many successful relationships with other governmental and non-profit partners to further waste reduction efforts. Some examples are highlighted below.

Goodwill Industries of Santa Clara County has created a comprehensive mattress recycling program that helps divert this waste from landfills and reduce blight from illegal dumping. San José provided Goodwill with a grant to offset capital costs and the per-mattress cost to haulers.

The pilot employed 40 veterans who processed over 35,000 mattresses, recovering 967 tons of materials, and disposing of 99 tons of non-recyclable materials. The operation has recently become profitable for Goodwill.

ESD also partners with the Resource Area for Teachers (RAFT) which diverts materials from the waste stream by giving them a second life as materials for educational projects. Additionally, staff uses the San José Conservation Corps for special event recycling and other waste management tasks. Staff is always seeking additional opportunities to partner with organizations locally, regionally, or nationally to address key issues. For instance, in February 2013, the Urban Sustainability Directors Network gave the cities of San José, Ashville, NC, and Gaithersburg, MD a \$50,000 grant to create an on-line toolkit to help municipal waste management personnel understand the opportunities and issues presented by compostable food service ware, bags and other related products.

Additionally, San José will host the August 2014 combined annual conferences of the California Resource Recovery Association and the regional Solid Waste Association of North America. Core planning roles for state and national conferences provides staff a chance to showcase the City's many innovations and leverage the efforts of other successful programs throughout the state.

### **Converting Waste to Energy**

San José continues to play a lead in the development of green technology infrastructure to convert waste to energy. The central project in this effort is the ZWED dry fermentation anaerobic digestion facility, opening in November 2013. The first and largest facility of its kind in the world, ZWED provides a much anticipated model for public/private infrastructure development. Further, it creates additional regional capacity for processing waste organics beyond San José businesses, including the City's residential sector and other Bay Area municipalities.

As part of the March 2013 Council action on the Green Vision Annual Report and Workplan, Council directed staff to pursue demonstration projects that convert waste to energy. For example, staff is implementing the final phase of a California Energy Commission grant project to test the gasification of wood waste from the residential yard trimmings program and biosolids from the San José-Santa Clara Regional Wastewater Facility<sup>1</sup> (Wastewater Facility), at the Wastewater Facility site. Staff continues to evaluate additional demonstration opportunities through review of promising projects in other jurisdictions and requests from the private sector to consider their proposals; this year, staff technical evaluation included review of nearly twenty technologies including Banyon Nation and Eco Tec Fuels. Demonstration projects could take place at one of the private waste processing facilities in the City, if the technologies show potential to integrate with the facility's operations and meet the City's diversion goals.

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<sup>1</sup> \*The legal, official name of the facility remains San Jose/Santa Clara Water Pollution Control Plant, but beginning in early 2013, the facility was approved to use a new common name, the San José-Santa Clara Regional Wastewater Facility.

Demonstration projects inherently have more risk than proven commercial-scale implementations. For example, staff needed to make adjustments when Energy Commission grant partners Harvest Power and Agnion technologies determined that it would not be economically viable for them to implement the demonstration project. Staff subsequently identified new partners Zero Waste Energy and JUM Global using very similar technology and identical feedstock, to continue with the demonstration of a small-scale unit at the Wastewater Facility. Staff submitted the proposed substitution to the Energy Commission in September 2013. If approved, staff would bring forward an agreement with Zero Waste Energy for Council consideration in late 2013 to use the Commission's remaining \$1.3 million in grant funds towards the revised project.

Finally, San José used the Energy Commission grant to offset membership costs for the Bay Area Biosolids to Energy Coalition. The Coalition, which represents 19 San Francisco Bay Area wastewater agencies, is developing energy generation alternatives to diversify biosolids management options, which will benefit San Francisco Bay Area communities, the environment, and the economy. This fall, the Coalition is leading a Request for Proposals process for one or more regional biosolids-to-energy facilities in the Bay Area, which could be used by all Coalition partners for the disposition of biosolids. ESD staff is participating in the evaluation of these proposals.

### **Legislation and Advocacy**

San José is an active member of the California Product Stewardship Council, a statewide non-profit that advocates for the passage of laws that reduce the cost to municipal programs for the collection and disposal of special waste items. For example, the State legislature just completed the first year of its 2013-2014 term, and a bill addressing unused prescription drugs that the City supports will be taken up again next year. SB 727, the Pharmaceutical Product Stewardship Act, would require manufacturers to create a program to collect and dispose of household pharmaceuticals.

In a related 2013-2014 effort, the County Technical Advisory Committee of the Santa Clara County Recycling and Waste Reduction Commission is exploring the possibility of recommending a similar local ordinance that would apply in each city in the County and unincorporated areas. This would relieve the City of San José from having to adopt its own ordinance. Alameda County already has an ordinance requiring manufacturers to fund and implement a take-back program for pharmaceuticals, something that would have positive ramifications for both the City's solid waste management and watershed protection efforts.

Further, SB 254, the Used Mattress Recovery and Recycling Act which the City supported, was signed into law September 2013 and requires manufacturers to implement a plan for the collection, recycling, and disposal of used mattresses. In the next few months, the State will be appointing an advisory committee to provide technical input on the design and implementation of this program, and staff is pursuing participation on this committee.



### **EVALUATION AND FOLLOW-UP**

No follow up action is required at this time. Staff will continue to provide updates to the Transportation and Environment Committee and Council to convey significant changes or issues as program implementation progresses.

### **PUBLIC OUTREACH/INTEREST**

- ☐ **Criterion 1:** Requires Council action on the use of public funds equal to \$1 million or greater. **(Required: Website Posting)**
- ☐ **Criterion 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**
- ☐ **Criterion 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

This recommendation does not meet any of the public outreach requirements above; however it will be posted on the City's website as part of the November 4, 2013, Transportation and Environment Committee agenda.

### **COORDINATION**

This report has been coordinated with the Departments of Finance, Information Technology (Customer Contact Center), Public Works, Planning Building and Code Enforcement, Police, and the City Attorney's Office.

### **CEQA**

Not a Project, File No.PP10-069(a), Staff Reports that involve no approvals of any City Actions.

/s/ Ashwini Kantak for:

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